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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,942	10/16/2003	Pete Bernier	1730.003US1	4588

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EXAMINER
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EASTHOM, KARL D

ART UNIT	PAPER NUMBER
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2832

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/686,942

Applicant(s)

BERNIER, PETE

Examiner

Karl D Easthom

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 and 22 is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 18 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

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1. Claims 18-19 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 2-22. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duncan in view of Andes et al. Duncan discloses, except the shrink tubing, the claimed invention at Figs. 2, with sensor 14, flexible insulated core wire 12, electrically connected at one end 36, and insulated lead wire emanating from the source 40 and connected to the second end of the wire 14 at 34. That is, the wires 12, 14 are insulated, and are depicted exactly like the other wires of the circuit at Fig. 2, so that all wires are deemed insulated, or it would have been obvious to insulate same to prevent short circuits where all are depicted as the same and some are specifically noted to be insulated, see 16 at Fig. 4. Andes discloses employing a shrink tubing for an RTD sensor such as that of Duncan at col. 8, lines 15-30 for the purpose of preventing corrosion, so that such a modification would have been obvious. For claim 2, the size of ordinary wires no. 22 with 1/64 inch plastic thereon renders the device on the order of about one-twentieth, since "about" is broad, or an obvious variant since the number of wires changes from two to many as disclosed, depending on the operation, so that employing the

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correct number of wires to suit the application would have been obvious, or using a small size to fit the device into tight spaces would have been obvious, a desire well known in the art, as provided below in this art of record. For claim 3, at Fig. 11 another embodiment includes the core having strands 12a-12d twisted, deemed braided, where a twist is a simple braid, at col. 4, lines 60-75. As an alternative, braided wires are well known in the industry, as are solid wires, the Examiner taking Official Notice thereto, so that it would have been obvious to employ a twisted wire or a braided wire for a solid wire since they function in the same manner. For claim 15, the heat shrink material of Andes must be heated, and the other elements of the method follow from the product. For claim 16, all leads or wires connected to each end of the core and sensor at junctions 32, 36 and 34 are insulated as noted above.

4. Claims 1, 15-17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams in view of Andes et al. and Duncan. Adams discloses, except the separation, shrink tubing and soldering, the claimed invention at Fig. 1, with flexible insulated core wire 10/11, electrically connected at one end to RTD 13, with soldering (claim 20) and insulated lead wire 10/11. Andes discloses employing a shrink tubing for an RTD sensor such as that of Adams at col. 8, lines 15-30 for the purpose of preventing corrosion, so that such a modification would have been obvious. For claim 17, strain relief is 12. Duncan at cols. 5-6, lines 70-10, discloses separation at Fig. 2 for a sensing wire 12 like that of Adams, wrapped around a core, in order that heat transfer can be made at different levels to the sensor and core to create a quick response.

5. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duncan in view of Andes et al., further in view of McQueen '385. Duncan with Andes discloses the

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claimed invention as noted except the explicit size where here, in the alternative, "about" is arguably not met, and more motivation is added. McQueen at the bottom of cols. 2 and 6, discloses such a size as a desirable quality for an RTD sensor so that same would have been obvious to fit the device into tight spaces.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Duncan in view of Andes et al., further in view of Jameson. The claimed invention is disclosed as noted above except the woven fiberglass insulation. Jameson discloses such insulation as 22 or 83 at cols. 3-4 for the purpose of securing RTD wires to an underlying core, so that it would have been obvious to warp the RTD wires of Duncan on a core having such a woven fiberglass insulation.

7. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duncan in view of Andes et al. and Jameson, further in view of Adams. The claimed invention is disclosed as noted above except the sensor material and banding strap. Adams discloses the material for sensing temperature at col. 2, lines 50-72 so that such a material would have been obvious where each reference discloses RTD's in general. For claim 6, see remarks for claim 20 above. For claim 7, the banding strap 12 of Adams is employed to secure the core wire and lead wire to the sensor.

8. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duncan in view of Andes et al., Jameson, and Adams, further in view of Ellman et al. The claimed invention is as noted except the material for the strap. Ellman at par. 37 employs steel or brass for the purpose of forming a band crimping like that of Adams to form a secure connection so that such a material would have been obvious and to avoid use of solder. (The hollow tube 70 is brass or steel and is used to connect two wire type elements 74 and 70, the former by

crimping to avoid solder.) For claim 10, the element is crimped in Ellman, so that it would have been obvious to form a tight connection. For claims 11-12, the wires of Duncan or Adams, exit at the same end, where for Adams it would have been obvious to make the connection to a device. Duncan also depicts at Fig. 8 what appears to be some type of strap or crimp joining wires, further suggesting the combination.

9. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duncan in view of Andes et al., Jameson, Adams and Ellman et al., further in view of Boehm et al. The claimed invention is disclosed except the use of two banding straps. Boehm discloses using same (30, 34) at Fig. 3 for the purpose of added protection so that the wires do not come loose. For claim 14, such a force would have been inherent or obvious given the two crimps where one of skill in the art recognizes that a pulling force of 5 pounds would most likely be met by the double crimp, or it would have been obvious to ensure the crimps can handle that much force in order to ensure a good connection.

10. Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Duncan in view of Andes et al., further in view of Hannigan. The claimed invention is disclosed except the strain relief. Hannigan at col. 6, and Fig. 9 discloses strain relief 120 for the purpose of connecting an RTD sensor with a strain relief for more reliable connections, to leads for sensing, so that connecting leads in the manner claimed would have been obvious for the purpose of making a secure connection.

11. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Duncan in view of Andes et al., further in view of McQueen. The claimed invention is disclosed essentially as noted above except the soldering. McQueen at col. 5 discloses shrink soldering or welding of

an RTD to wires at col. 5, lines 20-67 for the purpose of ensuring proper lead connection so that same would have been obvious.

12. Claims 21-22 are allowed primarily for reasons earlier noted

13. Applicant's arguments filed 11/29/04 have been considered but are not persuasive.

Applicant argues with respect to Duncan in general for claims 1 and 15-16 that he is unable to find most of the amended claim elements. These are noted above. As to claims 2-3, applicant essentially argues that 3/20th of an inch is not "about" 1/20<sup>th</sup> of an inch. This argument is not persuasive since "about" is broad enough to cover the elements, where 1 is on the order of 3, for example. Applicant argues with respect to claim 2, that McQueen refers to small sizes only for thermocouples. One reading McQueen would not so narrowly read the passage as limiting one device to be small. As to Jameson, applicant argues that the tape is for wrapping to a core. This is not persuasive since tape is a known insulator for a wire, and the tape 22 at Fig. 2 is over the core as claimed. As to claim 7, applicant argues that 12 of Adams is not a band relieving strap, but does not say why. A protective sheath relieves strain and it is a band. Applicant argues proper motivation for Ellman since it is not a temperature sensor. The field of endeavor is not so limited, where for example, a skilled artisan would be cognizant of the field of electronic probe type sensors and connections thereto. Applicant argues no crimp of brass or steel is in Ellman. This is not correct where the hollow tube 70 is brass or steel and is used to connect two wires 74 and 70, the former by crimping to avoid solder. For claims 13-14, applicant argues there is no motivation for two crimps, but Boehm discloses same as noted above. As to the pulling force, 5lbs is a minimal force so that it would have been obvious to form same to avoid disconnection. As to Adams, the separation is provided by Duncan.

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Applicant further argues the shrink tubing is not need due to the cement, but the former is an obvious replacement for the sensor during storage before use in screw housing or in other applications, to avoid corrosion , and the cement would still be required for the screw type application.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl D Easthom whose telephone number is (571) 272-1989. The examiner can normally be reached on M-Th, 5:30AM-4:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karl D Easthom  
Primary Examiner  
Art Unit 2832

KDE